

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

What is claimed is:

1. A liquid ejecting apparatus comprising:
  - a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle,
  - a main controlling part that drives the liquid-ejecting unit based on ejecting data,
  - a capping member relatively movable between a position away from the head member and a position in contact with the head member,
  - a suction way communicated with an inside of the capping member,
  - a built-in slide-rotator type of positive displacement pump provided in the suction way,
  - a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,
  - a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,
  - a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and
  - a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.
2. A liquid ejecting apparatus comprising:
  - a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle,
  - a main controlling part that drives the liquid-ejecting unit based on ejecting data,
  - a capping member relatively movable between a position away

from the head member and a position in contact with the head member,

a suction way communicated with an inside of the capping member,

a built-in slide-rotator type of positive displacement pump provided in the suction way,

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part,

a displaying part that displays judge result by the judging part,

an inputting part into which a preliminary-operation instruction is manually inputted, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, based on the preliminary-operation instruction inputted into the inputting part.

3. A liquid ejecting apparatus according to claim 1, wherein:  
the preliminary-operation carrying-out part is adapted to cause the liquid-ejecting unit to eject liquid from the nozzle into the capping member, and thereafter drive the built-in slide-rotator type of positive displacement pump for a predetermined preliminary-operation time.

4. A liquid ejecting apparatus according to claim 1, wherein:  
the built-in slide-rotator type of positive displacement pump has a pump frame connected to the suction way,

a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame via the wetting-agent supplying way.

5. A liquid ejecting apparatus according to claim 4, wherein:  
a priming pump is provided in the wetting-agent supplying way, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate.

6. A liquid ejecting apparatus according to claim 5, wherein:  
the head member is integrated with a pushing member,  
the pushing member is movable in a direction in such a manner that the pushing member can push the priming pump to cause the priming pump to operate, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate via the pushing member by moving the head member.

7. A liquid ejecting apparatus comprising:  
a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle,

a main controlling part that drives the liquid-ejecting unit based on ejecting data,

a capping member relatively movable between a position away from the head member and a position in contact with the head member,

a suction way communicated with an inside of the capping member,

a built-in slide-rotator type of positive displacement pump provided in the suction way,

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a displaying part that displays judge result by the judging part,

wherein

the built-in slide-rotator type of positive displacement pump has a pump frame connected to the suction way,

a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame,

a priming pump is provided in the wetting-agent supplying way, and

a manual inputting part for causing the priming pump to operate is connected to the priming pump.

8. A liquid ejecting apparatus according to claim 1, wherein:

the state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump is a non-operating time of the positive displacement pump,

the state-quantity recognizing part is a non-operating-time recognizing part that recognizes the non-operating time,

the standard state quantity being a standard for carrying out a preliminary operation is a standard time being a standard for carrying out a preliminary operation,

the standard-state-quantity setting part is a standard-time setting part in which the standard time is set, and

the judging part is adapted to judge that the inside of the positive displacement pump is dry, when the non-operating time recognized by the non-operating-time recognizing part is equal to or longer than the standard time set in the standard-time

setting part.

9. A liquid ejecting apparatus according to claim 1, wherein:  
the state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump is a state quantity related to an operating state of the positive displacement pump after the positive displacement pump has been driven for a predetermined time.
10. A liquid ejecting apparatus according to claim 1, wherein:  
the built-in slide-rotator type of positive displacement pump is a gear pump.
11. A liquid ejecting apparatus according to claim 1, wherein:  
the built-in slide-rotator type of positive displacement pump is a roots pump.
12. A liquid ejecting apparatus according to claim 1, wherein:  
the built-in slide-rotator type of positive displacement pump is a quimby screw pump.
13. A liquid ejecting apparatus according to claim 1, wherein:  
the built-in slide-rotator type of positive displacement pump is a vane pump.
14. A liquid ejecting apparatus comprising:  
a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle,  
a main controlling part that drives the liquid-ejecting unit based on ejecting data,  
a capping member relatively movable between a position away from the head member and a position in contact with the head member,  
a suction way communicated with an inside of the capping member,  
a reciprocating-mechanism type of positive displacement pump provided in the suction way,

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

15. A liquid ejecting apparatus comprising:

a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle,

a main controlling part that drives the liquid-ejecting unit based on ejecting data,

a capping member relatively movable between a position away from the head member and a position in contact with the head member,

a suction way communicated with an inside of the capping member,

a reciprocating-mechanism type of positive displacement pump provided in the suction way,

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive

displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part,

a displaying part that displays judge result by the judging part,

an inputting part into which a preliminary-operation instruction is manually inputted, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, based on the preliminary-operation instruction inputted into the inputting part.

16. A liquid ejecting apparatus according to claim 14, wherein:  
the preliminary-operation carrying-out part is adapted to cause the liquid-ejecting unit to eject liquid from the nozzle into the capping member, and thereafter drive the reciprocating-mechanism type of positive displacement pump for a predetermined preliminary-operation time.

17. A liquid ejecting apparatus according to claim 14, wherein:  
the reciprocating-mechanism type of positive displacement pump has a pump frame connected to the suction way,  
a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame, and  
the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame via the wetting-agent supplying way.

18. A liquid ejecting apparatus according to claim 17, wherein:  
a priming pump is provided in the wetting-agent supplying way, and  
the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate.

19. A liquid ejecting apparatus according to claim 18, wherein:  
 the head member is integrated with a pushing member,  
 the pushing member is movable in a direction in such a manner  
 that the pushing member can push the priming pump to cause the  
 priming pump to operate, and

the preliminary-operation carrying-out part is adapted to  
 supply the wetting agent into the pump frame by causing the priming  
 pump to operate via the pushing member by moving the head member.

20. A liquid ejecting apparatus comprising:

a head member having a nozzle and a liquid-ejecting unit  
 that ejects liquid in the nozzle,

a main controlling part that drives the liquid-ejecting  
 unit based on ejecting data,

a capping member relatively movable between a position away  
 from the head member and a position in contact with the head member,

a suction way communicated with an inside of the capping  
 member,

a reciprocating-mechanism type of positive displacement  
 pump provided in the suction way,

a state-quantity recognizing part that recognizes a state  
 quantity related to a dry state in an inside of the  
 reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard  
 state quantity is set, the standard state quantity being a standard  
 for carrying out a preliminary operation for wetting the inside  
 of the positive displacement pump,

a judging part that judges whether the inside of the positive  
 displacement pump is dry or not, by comparing the state quantity  
 recognized by the state-quantity recognizing part with the  
 standard state quantity set in the standard-state-quantity setting  
 part, and

a displaying part that displays judge result by the judging  
 part,

wherein

the reciprocating-mechanism type of positive displacement

pump has a pump frame connected to the suction way,

a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame,

a priming pump is provided in the wetting-agent supplying way, and

a manual inputting part for causing the priming pump to operate is connected to the priming pump.

21. A liquid ejecting apparatus according to claim 14, wherein:

the state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump is a non-operating time of the positive displacement pump,

the state-quantity recognizing part is a non-operating-time recognizing part that recognizes the non-operating time,

the standard state quantity being a standard for carrying out a preliminary operation is a standard time being a standard for carrying out a preliminary operation,

the standard-state-quantity setting part is a standard-time setting part in which the standard time is set, and

the judging part is adapted to judge that the inside of the positive displacement pump is dry, when the non-operating time recognized by the non-operating-time recognizing part is equal to or longer than the standard time set in the standard-time setting part.

22. A liquid ejecting apparatus according to claim 14, wherein:

the state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump is a state quantity related to an operating state of the positive displacement pump after the positive displacement pump has been driven for a predetermined time.

23. A liquid ejecting apparatus according to claim 14, wherein:

the reciprocating-mechanism type of positive displacement pump is a piston pump.

24. A liquid ejecting apparatus according to claim 14, wherein:  
the reciprocating-mechanism type of positive displacement pump is a bellows pump.

25. A liquid ejecting apparatus according to claim 14, wherein:  
the reciprocating-mechanism type of positive displacement pump is a diaphragm pump.

26. A controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a built-in slide-rotator type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

27. A controlling unit according to claim 26, wherein:

the preliminary-operation carrying-out part is adapted to cause the liquid-ejecting unit to eject liquid from the nozzle into the capping member, and thereafter drive the built-in slide-rotator type of positive displacement pump for a predetermined preliminary-operation time.

28. A controlling unit according to claim 26, wherein:  
 the built-in slide-rotator type of positive displacement pump has a pump frame connected to the suction way,  
 a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame, and  
 the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame via the wetting-agent supplying way.

29. A controlling unit according to claim 28, wherein:  
 a priming pump is provided in the wetting-agent supplying way, and  
 the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate.

30. A controlling unit according to claim 29, wherein:  
 the head member is integrated with a pushing member,  
 the pushing member is movable in a direction in such a manner that the pushing member can push the priming pump to cause the priming pump to operate, and  
 the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate via the pushing member by moving the head member.

31. A controlling unit according to claim 26, wherein:  
 the state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump is a non-operating time of the positive displacement pump,  
 the state-quantity recognizing part is a non-operating-time

recognizing part that recognizes the non-operating time,

the standard state quantity being a standard for carrying out a preliminary operation is a standard time being a standard for carrying out a preliminary operation,

the standard-state-quantity setting part is a standard-time setting part in which the standard time is set, and

the judging part is adapted to judge that the inside of the positive displacement pump is dry, when the non-operating time recognized by the non-operating-time recognizing part is equal to or longer than the standard time set in the standard-time setting part.

32. A controlling unit according to claim 26, wherein:

the state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump is a state quantity related to an operating state of the positive displacement pump after the positive displacement pump has been driven for a predetermined time.

33. A controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a reciprocating-mechanism type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

34. A controlling unit according to claim 33, wherein:

the preliminary-operation carrying-out part is adapted to cause the liquid-ejecting unit to eject liquid from the nozzle into the capping member, and thereafter drive the reciprocating-mechanism type of positive displacement pump for a predetermined preliminary-operation time.

35. A controlling unit according to claim 33, wherein:

the reciprocating-mechanism type of positive displacement pump has a pump frame connected to the suction way,

a wetting-agent supplying way for supplying a wetting agent is connected to the pump frame, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame via the wetting-agent supplying way.

36. A controlling unit according to claim 35, wherein:

a priming pump is provided in the wetting-agent supplying way, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate.

37. A controlling unit according to claim 36, wherein:

the head member is integrated with a pushing member,

the pushing member is movable in a direction in such a manner

that the pushing member can push the priming pump to cause the priming pump to operate, and

the preliminary-operation carrying-out part is adapted to supply the wetting agent into the pump frame by causing the priming pump to operate via the pushing member by moving the head member.

38. A controlling unit according to claim 33, wherein:

the state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump is a non-operating time of the positive displacement pump,

the state-quantity recognizing part is a non-operating-time recognizing part that recognizes the non-operating time,

the standard state quantity being a standard for carrying out a preliminary operation is a standard time being a standard for carrying out a preliminary operation,

the standard-state-quantity setting part is a standard-time setting part in which the standard time is set, and

the judging part is adapted to judge that the inside of the positive displacement pump is dry, when the non-operating time recognized by the non-operating-time recognizing part is equal to or longer than the standard time set in the standard-time setting part.

39. A controlling unit according to claim 33, wherein:

the state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump is a state quantity related to an operating state of the positive displacement pump after the positive displacement pump has been driven for a predetermined time.

40. A program being executed by a computer system including at least a computer to materialize a controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member

relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a built-in slide-rotator type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

41. A program being executed by a computer system including at least a computer to materialize a controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a reciprocating-mechanism type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

42. A program including a command for controlling a second program executed by a computer system including at least a computer, the program being executed by the computer system to control the second program to materialize a controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a built-in slide-rotator type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity

recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that the inside of the positive displacement pump is dry.

43. A program including a command for controlling a second program executed by a computer system including at least a computer, the program being executed by the computer system to control the second program to materialize a controlling unit for controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a reciprocating-mechanism type of positive displacement pump provided in the suction way; the controlling unit comprising

a state-quantity recognizing part that recognizes a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a standard-state-quantity setting part in which a standard state quantity is set, the standard state quantity being a standard for carrying out a preliminary operation for wetting the inside of the positive displacement pump,

a judging part that judges whether the inside of the positive displacement pump is dry or not, by comparing the state quantity recognized by the state-quantity recognizing part with the standard state quantity set in the standard-state-quantity setting part, and

a preliminary-operation carrying-out part that carries out the preliminary operation for wetting the inside of the positive displacement pump, when it is judged by the judging part that

the inside of the positive displacement pump is dry.

44. A method of controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a built-in slide-rotator type of positive displacement pump provided in the suction way; the method comprising

a step of recognizing a state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump,

a step of judging whether the inside of the positive displacement pump is dry or not, by comparing the state quantity related to a dry state in an inside of the built-in slide-rotator type of positive displacement pump with a standard state quantity that has been set in advance, and

a step of carrying out a preliminary operation for wetting the inside of the positive displacement pump, when it is judged that the inside of the positive displacement pump is dry.

45. A method of controlling a liquid ejecting apparatus including: a head member having a nozzle and a liquid-ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid-ejecting unit based on ejecting data; a capping member relatively movable between a position away from the head member and a position in contact with the head member; a suction way communicated with an inside of the capping member; and a reciprocating-mechanism type of positive displacement pump provided in the suction way; the method comprising

a step of recognizing a state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump,

a step of judging whether the inside of the positive

displacement pump is dry or not, by comparing the state quantity related to a dry state in an inside of the reciprocating-mechanism type of positive displacement pump with a standard state quantity that has been set in advance, and

a step of carrying out a preliminary operation for wetting the inside of the positive displacement pump, when it is judged that the inside of the positive displacement pump is dry.